

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference  030844WO	<b>FOR FURTHER ACTION</b> <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No.  PCT/IB 03/04246	International filing date (day/month/year)  29/09/2003	(Earliest) Priority Date (day/month/year)
Applicant  NOKIA CORPORATION		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.  
☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

**4. With regard to the title,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

**5. With regard to the abstract,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

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☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/04246

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G11C27/02 H03H19/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G11C H03H H03K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 01 24192 A (ERICSSON TELEFON AB L M) 5 April 2001 (2001-04-05) page 16, line 1 - line 28; figure 14B	1,2, 10-12
A	KARVONEN S ET AL: "A complex charge sampling scheme for complex IF receivers" PROCEEDINGS OF THE 2003 IEEE INTERNATIONAL SYMPOSIUM ON CIRCUITS AND SYSTEMS (CAT. NO. 03CH37430), ISCAS 2003. INTERNATIONAL SYMPOSIUM ON CIRCUITS AND SYSTEMS, BANGKOK, THAILAND, 25-28 MAY 2003, pages II-169-72 vol.2, XP002278249 2003, Piscataway, NJ, USA, IEEE, USA ISBN: 0-7803-7761-3 the whole document	1,2,9-12

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

27 April 2004

Date of mailing of the international search report

24. 06. 2004

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BO GUSTAVSSON

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/04246

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	VASSEAU T ET AL: "A track&hold-AGC suitable for downconversion by subsampling" ICECS'99. PROCEEDINGS OF ICECS '99. 6TH IEEE INTERNATIONAL CONFERENCE ON ELECTRONICS, CIRCUITS AND SYSTEMS (CAT. NO.99EX357), ICECS'99. PROCEEDINGS OF ICECS'99. 6TH IEEE INTERNATIONAL CONFERENCE ON ELECTRONICS, CIRCUITS AND SYSTEMS, PAFOS, CYPRUS, 5-, pages 1527-1530 vol.3, XP002278250 1999, Piscataway, NJ, USA, IEEE, USA ISBN: 0-7803-5682-9 the whole document	1,10,11
A	US 5 963 156 A (OPRIS ION E ET AL) 5 October 1999 (1999-10-05) the whole document	1,2, 10-12

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

/IB 03/04246

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0124192	A	05-04-2001	AU 7820100 A	30-04-2001
			CN 1377504 T	30-10-2002
			EP 1221166 A1	10-07-2002
			JP 2003510933 T	18-03-2003
			WO 0124192 A1	05-04-2001
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US 5963156	A	05-10-1999	NONE	
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